

REMARKS

The Office Action

In the Office Action mailed January 25, 2007, the Examiner allowed claims 7-12 and 15-17. Applicants gratefully acknowledge this allowance of claims and request the Examiner's indulgence with respect to the remarks presented below with respect to the remaining claims. The Examiner has rejected claims 1 and 13 under 35 U.S.C. section 102(e) as being anticipated by Merkle et al., U.S. Patent No. 5,442,344 (hereinafter "Merkle"). Claims 2-6 and 14 were rejected under 35 U.S.C. section 103(a) as being unpatentable over Merkle in light of Meyer et al., U.S. Patent No. 5,933,812. For reasons set forth more fully below, Applicant submits that Merkle does not disclose the optical transmitter and optical receiver of claim 1 or the method elements of claim 13.

Claim 1

Claim 1 requires an optical receiver that receives "a continuous light signal from an external device in the absence of a data signal at the external device." This element is missing from the probe and data unit disclosed by Merkle. In Merkle, the format of the signals sent by the probe and the data unit in the appliance are the same. *Merkle*, col. 5, line 50-53. As shown in Merkle (FIG. 5), the communication line is held at a binary high level until a start bit is reached. The start bit is a binary zero. *Merkle*, col. 5, lines 50-56. A binary zero results in the generation of an optical light signal and a binary one results in the absence of optical energy being transmitted. *Merkle*, col. 5, line 68 to col. 6, line 6.

Consequently, the binary high at which the line is held until a start bit is reached causes the transmitter in the data unit not to transmit a light. As a result, the optical receiver in the probe does not “receive a continuous light signal” from the data unit of the appliance. Thus, Merkle teaches that the optical receiver of the probe operates in manner that is the opposite of the optical receiver set forth in claim 1. Therefore, Merkle does not disclose each and every limitation of claim 1 and cannot anticipate claim 1.

Merkle represents the problem that is solved by Applicant's invention. Because the transmitter of the probe and the transmitter of the data unit in Merkle operate in the same manner, the optical receiver of the probe may detect a reflection of a signal from the optical transmitter of the probe while it is waiting for a signal from the data unit. Because the transmitter of the data unit does not generate a continuous light signal in the absence of an electrical data signal, the optical receiver of the probe is able to detect light reflections resulting from the probe transmitter sending an optical signal to the data unit receiver. In Applicant's claimed invention, the optical receiver of the probe receives a continuous light whenever it is near an external device. Thus, the optical receiver of the probe in claim 1 cannot detect reflected light arising from the probe transmitter's communication with the external device receiver because the optical receiver of the probe is receiving a continuous light signal from the external device transmitter. Once the light signal turns off, the optical receiver knows that an optical data signal has started and will continue to process the optical data signal as a data signal until the optical signal is terminated. The operation of the

transmitter of the external device communicating with the optical receiver of the probe is the opposite of the operation of the optical transmitter of the probe. As set forth in claim 1, the optical transmitter of the probe does not generate an optical signal in the absence of an electrical data signal. Therefore, the probe of Merkle does not enjoy the noise immunity provided by the probe of claim 1 and the Applicant respectfully asks that claim 1 be allowed over all references of record.

Claims 2-6

Claims 2-6 depend from claim 1 and include the limitation regarding the optical receiver that was discussed above with respect to claim 1. The section 103 ground of rejection is based on an interpretation of Merkle that anticipates claim 1. As noted above, Merkle does not disclose every limitation of claim 1. Consequently, it does not support the section 103 ground of rejection. Additionally, combining Merkle and Meyer does not result in a LED and a phototransistor being operated as required by claims 2-6. Therefore, claims 2-6 are also patentable over all references of record and Applicant respectfully asks that these claims also be allowed.

Claim 13

Claim 13 is a method claim that requires receipt of a continuous light signal from an external device in the absence of a data signal at the external device. As noted above, the probe and data unit of Merkle do not operate in this manner as neither the probe nor the data unit receive a continuous light signal in

the absence of an electrical data signal. Therefore, Merkle does not disclose the method of claim 13 and Applicant respectfully asks that claim 13 be allowed over all references of record.

Claim 14

Claim 14 depends from claim 13 and includes the limitation regarding the receipt of a continuous light signal that was discussed above with respect to claim 13. The section 103 ground of rejection is based on an interpretation of Merkle that anticipates claim 13. As noted above, Merkle does not disclose every limitation of claim 13. Consequently, it does not support the section 103 ground of rejection. Additionally, combining Merkle and Meyer does not result in the enablement of optical communication through light pulses generated as required by the method of claim 13. Therefore, claim 14 is also patentable over all references of record and Applicant respectfully asks that this claim also be allowed.

Conclusion

For the reasons set forth above, Applicant respectfully submits that claims 1-6 and 13-14 are also patentable over all references of record, either alone or in combination. Reexamination and allowance of claims 1-6 and 14 are earnestly solicited. Allowance of claims 7-12 and 15-17 is most gratefully acknowledged.

Respectfully submitted,
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